outlet of the funnel, or a piece of tube be joined to it so as to lengthen it below, the quantity of water passing through, instead of being lessened by the friction of the additional downward pipe, as happens when an addition is made of horizontal pipe, will be increased in a proportion to the length of pipe added, until that length reach a level of about 34 feet below that of the mouth of the apparatus.

The Minutes of Information contain, it is to be regretted, a repetition of the taunts on "professors of architecture" to which we have before objected in documents from the same quarter, and which have served to array unnecessarily a large amount of feeling against the discovery and progress of truth.

From Croydon statements of failure have been made to us which certainly are not borne out by inquiries on the spot. Out of 1,500 or 1,600 houses, 1,312 are connected with the sewers, and great improvement is observable in various parts of the town. Portions of the work might have been done better; there are occasional stoppages in a few house-drains, of course, and some of the pipes at Broad Green, we are told, have given way; still, as a system, including the supply of water and the useful application of the solid part of the sewage to a certain extent, it appears to be working very satisfactorily. The pipe-drains range from 4 inches to 18 inches, and it is an instructive fact to notice that substances (paper for example) are delivered at the out-fall in a perfect state, whereas, according to the testimony of some who have been long connected with drainage-works, such matters never reach the out-fall of the old sewers, being detained either in the brick house-drains or the sewers themselves until they are disintegrated!

THE POSITION OF ORGANS AND CHOIRS IN CHURCHES.*

The position of an organ will generally depend on that chosen for the choir, and sometimes (but in a smaller degree) the position of a choir must depend on the position of the organ. Occasionally, the position of the choir must depend on that chosen for the minister.

The chief question on which the position of choirs and organs will depend in parish churches is this:—Is the service of our church a Congregational Service, and the prayer *Common* Prayer? Is the choir to be considered as part of the congregation? are we—as I have before ventured to ask in another paper—to lay it down as a fundamental rule in parochial worship, that choirs are not organized to sing to or for us, but *with* us; and should not their position in churches be such as would best conduce to bring about this, the main object of their services? In churches where the congregation is not entirely in the choir, as in cathedrals, but in the nave, as in most parish churches, is the chancel the proper place for a choir? Again, can it be clearly shown, that the organ is so in-significant a part of the *fittings* of a church, or of so little consequence in the due and efficient celebration of Divine service—especially when that service is choral service—that it should be concealed from view as much as possible, and its tones smothered and its whole action and mechanism perilled by being placed (as I understand it is in the beautiful church at Howden) under a low arch, near a dead, damp wall, and surrounded with pillars? By concealing this noble ecclesiastical instrument as much as possible, it has been said, that two very important advantages are gained;—first, an uninterrupted view of the architectural beauties and proportions of the building in which it is placed; and, second, that the tones of the organ affect the congregation more when their source is, as it were, unknown.

The first is, indeed, a most important point, and should always be kept in view both by architects and organ builders; but, if the organ, from its unquestionable superiority over all other instruments, is the instrument most suitable to the majesty of Divine worship, can it with any propriety or reason be placed in such a situation as neither to be fairly seen nor heard? And yet it is a fact that the majority of church architects waive this important consideration in preparing their plans for any new structure; so that if the erection of an organ be not specially named, and is not brought forward till some time after the completion of the church—which is often the case from want of funds and other causes—the architect is astonished and confounded some fine morning at being told that an organ is to stand in a situation which he feels will assuredly ruin the proportions of his building.

Surely, the architect of St. John's, Holbeck, cannot really believe, if he has considered the matter at all, that the hole in the wall over the north porch is a suitable place for an organ? And yet I am told, on credible authority, that it is intended to place an organ there, and such a one as will be worthy of the church, and of the liberality of its pious founders—the choir, it must be remembered, being at the other end of the church.

No person, who is at all acquainted either with music or the principles of acoustics, can imagine that an organ placed under a low arch, with three sides of it close to dead walls—in fact, in a stone box—will produce the same effect as an organ placed in an open situation in the church where the vibration is considerable. "Organ builders," says an intelligent writer on this subject, "well know the difference between voicing an organ for a recess in a small chapel, and one for a central situation in a spacious church. In one case where the obstacles are numerous and close to the organ, it is almost impossible to produce a proper quality of tone, especially from large pipes. Whereas, in the other case, the organ builder soon finds the required tone, owing to all obstacles being at a distance, and the vibration of each pipe not being disturbed but in its 'periphery,' thus causing an agreeable reflection of sound, such as we find on listening to the organs in our cathedrals and other large buildings." It is a singular fact connected with the amount of resonance in different buildings, that the enormous organ built by Mr. Willis, which stood at the west end of the Crystal Palace, and which contained three sets of manuals, an immense number of stops, and a large pedal organ, was not in effect so powerful as an instrument in a church at Islington, with one row of keys and eight stops. This anomalous effect must be attributed solely to the total absence of reverberation from the immense quantity of *glass* in the Great Exhibition.

From what I have stated at the commencement of my paper, it will be seen, I think, that no one position for organs has exclusively been adopted in any age of the church,—though it must be admitted that from about the fifteenth century they have been generally placed, in parish churches, in the western gallery, — and in cathedrals and collegiate churches on the screen which separates the choir from the nave.

The present generation being at liberty, then, to legislate on the subject, I have ventured, as a church organist, to draw up a few rules, which, I hope, may be of some service to those who wish to place organs and choirs in churches in such a position as will best suit the requirements of the choral service—and, at the same time, not disfigure the architectural beauties of the building.

Rule 1. An organ should not play over one choir to another choir.

Rule 2. The people should not be between the choir and organ.

Rule 3. The singers in a choir must not have their backs to the people.

Rule 4. A choir should *never* be in a gallery.

In churches where there is a double choir and an organ, it seems to me that the organ may often be advantageously placed in the centre of a low organ screen, in the old accustomed position. As a general rule, choirs should as nearly as possible form an equilateral triangle with the organ. It is an important question, and one deserving of close investigation, whether listeners, or those who depend on choirs for assistance, should be east of the choirs; and it is certainly not advisable for the congregation to come between the choir and organ. I cannot help remarking here, that the usual places appropriated to the dignitaries in our cathedrals appear to be the worst in the church, and it is very curious that the chief places should be west of the choir.

I stated in rule 1, an organ must not play over one choir to another choir, as at the Temple Church, and at St. Andrew's, Wells-street. It has a one-sided effect; and, as the organist generally hears one choir above the other, and the choir nearest the organ hears considerably more of the organ than the other choir opposite, it is frequently the cause of serious faults and blemishes in the performance of the music. For this reason the organ should always, if possible, be placed considerably above the heads of the singers,—the tones of an instrument proceeding immediately before a choir will, assuredly, rather confuse than assist them. If, therefore, circumstances require the organ to be placed on the floor of a church, the sound-board should be fixed as *high* as the architecture, or other points, will allow.

It is well known, I believe, that a war has been for some time carried on by architects against cathedral organs, and many of them are being removed from their legitimate place and poked into transepts, galleries, and elsewhere, to the injury of the instruments, and the hindrance of the choral service. A gentleman who takes great interest in ecclesiastical architecture and ecclesiastical music (Sir Henry Dryden, of Canons Ashby), writes me, that the reason of this war "is the noisy tastes of organists, who have got their instruments to such a huge size as to be disfigurements to the building, and at last intolerable, and consequently removed." "Organs of a sufficient size," he continues, "lowered a little more into the organ screen, would be no disfigurements."

In Westminster Abbey, the choir organ remains in its original place, and the result of placing the great organ and swell on either side, is said by some persons to be the most successful example of removal in England.

I understand that the organ in Canterbury Cathedral is made very heavy in the touch by the distance between the pipes and the keys, and slow in speech (by removal), and is, moreover, lopsided in effect. The Temple organ is muffled in a box, and unequal in its effect: to a great extent the same may be said of the organ at our Leeds Parish Church; and these defects all result from the improper placing of these instruments.

With regard to parish churches, which have commonly chancels—not choirs, as in cathedrals,—and as the chief part of the church is filled with the congregation, I may ask, ought not the service to be *congregational?* It is evident, if the people are to sing, they must in a great measure be dependent on the choir. They, must, therefore, hear the latter as distinctly as possible, and must not, consequently, be between it and the organ.

To those who have thought at all upon the subject of my paper, I need scarcely say that the arrangement of the organ and choir must be greatly regulated by the size and shape of the church; so that no rule can be laid down for the exact position of either. Although it is not to be expected that choral service will be attained in every church, yet it is always desirable to arrange the singers so as to form two choirs; and I may venture to lay it down as an axiom, that service, however musical, is no choral service if there are not *two* choirs. Speaking historically, it seems hardly right to adduce as evidence for the proper position of choirs, any customs which may have prevailed before the Reformation, as the service then was not a congregational service. But since

* From a paper by Mr. William Spark, Organist, Leeds, read before the Yorkshire Architectural Society, May, 1852. The complete paper, with illustrations, is published by Novello, Dean-street.

For info on PDF Compression and OCR go to our website